

5 CRITICAL DECISIONS

In this chapter, some of the decisions that are critical to successful implementation of CVISN Level 1 electronic screening functions are identified. The chapter is intended to serve as a checklist to remind states about some of the major planning and design issues they should settle as early in the process as possible. Other decisions may be just as critical for a given state; this list reflects the critical electronic screening-related decisions commonly faced by states implementing CVISN Level 1.

When making these decisions, it is important to consider the motor carrier's interests, along with the state perspective. Participation by the carrier community is essential to achieve long-term success. Carrier outreach should begin at the early stages of development in order to build support for the program.

5.1 Design Decisions

The decisions listed below are categorized as “design” because they have a significant impact on the design approach. They all impact planning as well.

Do you already belong to, or will you join, an existing screening program? Joining an existing E-screening program has the benefit of immediate access to an existing population of transponders and operational sites. Jurisdictions may also choose to remain independent and seek interoperability agreements with existing programs. Two multi-state E-Screening programs are HELP PrePass™ and NorPass. Information about these two programs may be found in Chapter 3.

Will screening be performed at fixed sites? Mobile sites? Or both? Electronic screening implemented at fixed sites improves station traffic flow and focuses inspections. Other factors, such as access to alternate routes, may make mobile sites a more effective enforcement tool. Each jurisdiction should examine its situation and objectives to reach the best solution.

Which site will you upgrade first to handle electronic screening? Each roadside station design is unique because of state policies and practices, traffic flow and volume, site configuration and characteristics, legacy system characteristics, existing roadside and communications equipment, and available resources. The initial deployment site should be chosen early in the process, so that specific design decisions can be made.

At what other sites will electronic screening be deployed? A long-term deployment strategy for electronic screening should be developed. Design decisions should not be short-sighted and should consider the overall program objectives and goals.

Will you deploy WIM on the mainline? On the ramp? Both? Neither? The pros and cons of the various WIM configurations are listed below:

- Mainline — *Pro*: Vehicles receiving bypasses encounter minimal delay; improved station traffic flow. *Con*: Reduced WIM accuracy; requires lane closure for installation and maintenance; bypassed vehicles are not visually checked.
- Ramp — *Pro*: More accurate weight; does not require mainline lane closure. *Con*: Every vehicle enters the station.
- Both — *Pro*: Maximum station throughput; investigate both options in first site. *Con*: High cost.
- Neither (Weight history) — *Pro*: Minimal equipment costs. *Con*: Every vehicle is not weighed.

Will you screen using both carrier and vehicle data? SAFER carrier and vehicle snapshots allow screening factors applied to both carrier and vehicle data. Some systems have chosen to screen on only carrier information, in order to reduce complexity and quantity of data. See Figure 3-1 for a list of data available in the vehicle snapshot.

What screening factors will you use? The three basic categories of screening factors are size and weight, safety and credentials. Size and weight compliance may be measured with sensors or based on historical performance. The safety category is composed of safety ratings, such as SafeStat and Inspection Selection System 2 (ISS-2), and Out-of-Service (OOS) information. Credentials include registration, taxes, insurance and permits. Jurisdiction-specific policies and laws may require additional screening factors.

Will you have an open enrollment policy? Enrollment policies are either open or restricted. The differences between the two types are highlighted below:

- Under an open enrollment policy, any carrier legally operating in a jurisdiction may participate in electronic screening, and therefore receive transponders. Bypass privileges are granted at the roadside based on screening criteria.
- For jurisdictions with restricted enrollment policies, additional scrutiny is performed prior to acceptance in the electronic screening program. Enrollment checks may include registration, fuel and highway use taxes, insurance and safety history. In this scheme, bypass privileges are restricted to those carriers who meet a higher set of standards imposed by the program. Periodic checks are required to verify compliance with the enrollment criteria is maintained.

Will the safety and credential checks be made at the roadside or at a central site?

- Safety and credential checks, based on carrier and vehicle snapshots, may be performed at a central pre-processing site. Lists of these “pre-clearance” decisions are passed to the roadside on a periodic basis. Real-time processing of the screening events consists of a table look-up, in addition to weight and size checks. This configuration simplifies the design of the roadside system.
- If snapshot data are available at the roadside, then the safety and credential checks may be performed on site. Snapshot data may already be present to support inspection activities. This design allows the station operator to modify the screening criteria.

How will you carry out the electronic screening enrollment function? States may choose to implement applications to support electronic screening enrollment, or subcontract the task to a third-party administrator. The HELP PrePass™ and NorPass programs also handle enrollment administration for their member states.

How will you share enrollment information with other programs? The CVISN architecture provides for sharing enrollment request and acceptance information via snapshots.

5.2 Planning Decisions

The decisions listed in this category usually do not impact design as much as they impact the preparation of task lists, assignments, schedules, and budget considerations.

What state agency will be the lead during development of electronic screening? Multiple state agencies have jurisdiction over various aspects of deploying and operating electronic screening. A lead agency should be identified to take responsibility for the project and to coordinate with the other state agencies.

What strategy will you use to build a sufficient population base of transponders?

Marketing electronic screening to motor carriers is difficult if only a few inspection stations are equipped and operational. Interoperability agreements, joining an established screening program or linking to electronic toll collection programs are ways to quickly build the transponder population and increase benefits to motor carriers.

What new equipment do you need to support electronic screening? Or, conversely, what equipment can be reused in the electronic screening system? Use of existing equipment, such as WIMs, computers, variable message signs, signals, tracking loops, mounting structures and poles, cabling and conduit, can significantly reduce costs.

Who is the system integrator? A decision closely related to the build-vs.-buy decision is who will provide the system integration function. System integration refers to the process of integrating each subsystem into the whole, testing the interfaces, testing the functionality, testing the overall flow, and testing for interoperability, performance and reliability. Some alternatives are:

- The state builds everything in-house and does the system integration with in-house staff.
- The state buys some products, builds some in-house, and integrates them with in-house staff.
- The state hires a system integrator to integrate all the purchased and in-house systems.
- The state contracts with a system integrator to serve as prime contractor and deliver a complete working system.

Should the state have an independent verification and validation (V&V) agent? Some states have policies that encourage them to hire an independent verification and validation agent to provide independent technical assessment and guidance as the project proceeds. It can be helpful if the agent has experience from other similar projects. The agent may serve as an acceptance test conductor or witness to ensure independence in the test process.

Sole Source or Competitive Contracting? Sole source contracting is sometimes selected if the state believes that a particular vendor is uniquely qualified. In some cases, sole source contracts can be put in place more quickly than contracts established through a competitive bidding cycle. Sole source contracting may not be an option since most states require competition whenever possible.

Has the state planned to involve its carriers at each step in the planning process? Carrier involvement is crucial to project success. Knowing what improvements the carriers in the state are capable of and interested in making helps drive the state's decisions. It is worthwhile for both sides to set realistic expectations about the improvements that carriers and the state can make.

5.3 Funding and Contracting Phase Key Decisions

These are issues that must be faced during the funding and contracting phase of the project. They are not unique to electronic screening.

- How much funding is required to complete the project?
- Where will the funding be obtained?
- How will O & M costs be funded?
- What type of procurement should be used for each product or service?
- What can be done to expedite procurements?
- What type of incentives and remedial mechanisms should be included in the contracts?
- What software rights should be included in the contracts?

5.4 Development Phase Key Decisions

These are issues that must be faced during the development phase of the project. They are not unique to electronic screening.

- How should the initial design be modified based on the experience gained in each phase?
- How should the initial phase plan be modified based on progress actually made in each phase?

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